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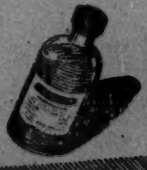

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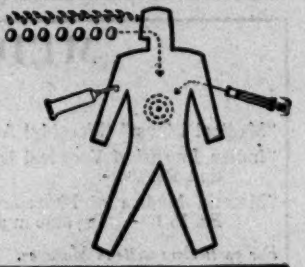

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Venereal Disease Control in the United States of America

By
Theodore J. Bauer
Chief, Division of Venereal Disease, United State Public Health Service.

A striking characteristic of the venereal disease control program of the United States is the number and autonomy of the health jurisdictions through which it operates. Each of 53 health jurisdictions–48 States, the District of Columbia, and four Territories and Possessions–has independent responsibilities and authorities in health matters. Each, therefore, maintains its own substructure of local health agencies and services.

Yet, the United States program has a very real national character, deriving not only from Federal venereal disease control legislation, but also from widespread recognition of the problem as one in public health. This recognition is reflected in the unanimity with which the States have adopted laws or regulations, authorizing public health action in the venereal disease field.

Federal and State Legislation.—Congress first passed legislation relating to venereal disease control in 1918, after medical examinations for military service had indicated that venereal disease was a health problem of substantial proportions. It was in 1938, however, that new laws were passed which established the present pattern of control. In broad terms, this legislation authorized appropriations for venereal disease control by the Federal Government and directed the United States Public Health Service to aid the States in performing control services. Under this authority, the Public Health Service, through its Division of Venereal Disease, administers financial grants-in-aid to States for venereal disease control ; conducts and supports research ; provides technical consultation and training services; aids in public and professional venereal disease education ; and joins with States and local communities to demonstrate control methods.

Direct diagnostic and treatment services, on the other hand, are usually the province of State and local health departments and of private physicians. In some States, venereal disease control laws preceded, in others followed

passage of Federal legislation. At the present time, all States and many local communities have authorized their health departments to plan and perform venereal disease control measures and regularly provide funds for this purpose. All States require reporting of venereal disease morbidity. All States also now provide for compulsory examination of persons suspected of having a venereal disease and quarantine of those deemed to be threats to the public health. In most States, blood tests for syphilis are required before marriage and during pregnancy. Some States have laws designed to prevent exploitation of the public by charlatans or purveyors of quack remedies for venereal disease.

The control activities of each State are directed by the State health authority through the State venereal disease control officer. Each State's program consists of carrying out an approved plan developed to meet specific needs for casefinding, diagnostic, and treatment facilities and services. To receive Federal financial aid, States are required to comply with certain terms and conditions laid down by central Federal law, one of which is to contribute a share of the funds expended in the State on venereal disease control.

Federal (central government) aid usually reaches a State program through the appropriate regional office of the Federal Security Agency, of which the Public Health Service is a constituent unit. Each region consists of from four to six States and each of the ten regional offices has on its staff a medical director who represents the Federal Government in public health matters in the region, including venereal disease control. Most of the regional offices have specially trained venereal disease consultants on whom the States may call for advice and assistance in the conduct of their programs.

It might be added that the Armed Services of the United States operate their own control programs for the benefit of their personnel. While close liaison obtains between the military and civilian programs, the Services function independently of the civilian program and their VD control officers are responsible solely to the military chain of command.

Many valuable contributions to the national program have been made by voluntary organizations interested in behavior problems which lead to spread of venereal infections. The American Social Hygiene Association, for example, has long taken the lead in efforts to prevent and abate prostitution and has rendered constructive service in educational programs to promote wholesome family life.

The duties of civilian health departments in venereal disease control, on the other hand, are usually considered to consist of planning and providing epidemiologic and therapeutic services. The objective of these services is to reduce deaths and disability from venereal disease through reductions in prevalence and incidence.

Control Services.

At the base of our venereal disease control program is treatment—early, adequate, readily-available treatment for as many persons as possible who have a venereal disease. More specifically, penicillin therapy stands as the keystone of the present program to control syphilis and gonorrhea, the most prevalent of the venereal diseases in the United States. In the eight years which have passed since the first report was made of this antibiotic's successful use for early syphilis, a variety of schedules have been developed and studied. The present method of treatment for early syphilis consists of at least 2.4 million units of penicillin, so given as to maintain therapeutic blood levels for not less than 5 days. While various questions remain unanswered in the realm of therapy, evaluation studies clearly demonstrate, we feel, that penicillin will in most cases eliminate the early infectiousness and the potentiality of late complications of syphilis. Penicillin, without adjuvant arsenic and bismuth, is the treatment of choice in the United States.

Building upon the base of treatment, health agencies have thoroughly integrated casefinding into the control program. A tool to draw the venereally infected to treatment, the casefinding operation takes one or more of the following forms in the United States:

(1) *Screen examinations:*—in which large numbers of people are serologically tested as members of groups. A screening program may cover mass population groups, as for example, a program in which the entire population of a community or several communities, or a State is encouraged to have a blood test. Or it may be directed at special groups. An example of the latter is premarital and prenatal bloodtesting for syphilis required by law in most States.

(2) *Contact investigation:*—in which venereal disease patients are interviewed for the purpose of learning the identity of their sex contacts. Following the interview, investigators locate persons named by the patient and persuade them to report for diagnosis. Interviews are conducted by public health nurses or by other health workers who have received special training in this casefinding procedure.

(3) *Public education:*—in which information is directed to the public to raise the level of personal suspicion of venereal infection, thereby stimulating voluntary reporting to diagnostic centres. Many channels of communication-radio, motion pictures, television, pamphlets, newspapers, posters are used to get venereal disease information to the public. The message usually consists of a few essential points, such as when to suspect venereal disease; where to go for diagnosis; and the contrasting prognosis of treated and untreated venereal infections.

The importance of casefinding in the national program is reflected in the number of diagnostic observations completed in public clinics. The final step in the casefinding process, these observations are being performed at the rate of about 2½ million annually and are yielding almost half a million cases of the venereal diseases per year.

Control Facilities

To implement casefinding, diagnosis and treatment, three types of control facilities are maintained with public health funds. These facilities are: (1) clinics; (2) rapid treatment centres; and (3) laboratories. Most of these facilities are operated by State and local health departments.

Venereal disease clinics:—are the centres of venereal disease control in most communities. There are about 2,200 such clinics in the United States. They generally provide diagnosis and treatment, although in some instances patients are referred to other facilities or to private physicians for treatment. Clinics provide no bed-care; they are outpatient facilities entirely. They usually serve as community head-quarters for casefinding.

Rapid treatment centres:—which provide inpatient care for wide geographical areas, were initiated as a wartime expedient in the early 1940's. In those critical years, a means was sought to isolate and treat quickly large numbers of the venereally infected, needed in the military services and in industrial plants. To accomplish this with a minimum number of medical, nursing and laboratory personnel, rapid treatment centres were developed to house venereal disease patients during a period of diagnosis and intensive treatment. Various expedients were employed in establishing the centres. Sometimes an abandoned military barracks was used or an abandoned work camp or an unused hospital. Occasionally, contracts were made with general hospitals for use of a special ward or wing for venereal disease patients.

The application of penicillin to venereal disease and the resulting development of brief schedules of therapy, made the rapid treatment centres exceedingly useful in the control program. With these centres available, casefindings could be conducted with the assurance that large numbers of persons found to have venereal disease could be cared for quickly and effectively, even though professional personnel was in short supply. Today, although outpatient therapy is being used increasingly in the United States, referrals to rapid treatment centres continue in substantial volume, with the result that these special venereal disease hospitals still occupy an important place in the control program.

Laboratories:—provided by State governments are available to both public clinics and private physicians. The latter may make use of them for their private patients or for patients referred to them by public clinics. The Public Health Service provides assistance, upon request, to State laboratories in evaluating and

improving the quality of their venereal disease work. Advanced training in the serology of syphilis is available in research installations of the Public Health Service for personnel of both public and private laboratories.

Services in Aid of Control.

Supporting these essential services are research, statistical and training activities which help to keep new knowledge, qualified personnel and current data on incidence, prevalence and mortality flowing into the program.

Records:—Functioning as it does through numerous health jurisdictions, venereal disease control in the United States has often encountered the difficulty of inconsistent and uneven statistical reporting. Only if such reporting is complete and accurate can State as well as Federal control officers appraise program objectives and results. Consequently, much effort has been expended on developing a system of records standardized as to content and nomenclature. Through analysis of these records, the need for control funds can be assessed, casefinding methods and treatment schedules evaluated and the overall progress of the program charted.

Education:—Besides being a widely-used casefinding aid, venereal disease informational and educational services help to generate public support for the control program. In the United States, venereal disease control did not become a recognized, well-supported public health program until health officers were able to get some facts about the extent of the VD problem before the public.

Teaching materials and services for professional personnel in the VD field are provided by health agencies at all levels. One of the principal organs of professional education is *The Journal of Venereal Disease Information* published monthly by the Public Health Service. Special training for contact, interviewers and postgraduate courses for physicians in diagnosis and treatment of venereal disease are provided in Public Health Service installations. Seminars on venereal disease are held regularly for health department staffs in various parts of the country and refresher courses in management of venereal disease patients are sometimes jointly sponsored by health departments and medical organizations.

Research:—Diagnosis, treatment and educational techniques are subject to constant study in research installations of the Public Health Service and in addition, the Service sponsors venereal disease research in universities and medical institutions through financial grants.

Examples of the experimental work now in progress are studies of immunity in syphilis, of the biology and cultivation of *Treponema pallidum* and of certain inconstant factors in the host, the pathogenic organism and in penicillin. In addition, newer antibiotics are being studied. While penicillin continues as the preferred treatment for syphilis and gonorrhea, newer antibiotics are showing good results for the other venereal diseases.

Study of educational methods is a relative newcomer to venereal disease research. Within the past few years, work has been undertaken to vitalize professional education in diagnosis and management of venereal disease and to expand and intensify patient education. Because of a dearth of clinical cases to observe in areas of low prevalence, medical students may lack opportunities to develop skill in diagnosing syphilis. As an aid to medical schools in meeting this problem the Public Health Service is making available clinical slides and other visual and printed materials. In public and patient education, efforts have been made to broaden the use and usefulness in VD control of mass communication channels. Some work has been done on the difficult question of why some persons suspecting venereal infection will volunteer for diagnosis while others must be sought out by health departments.

Personnel:—To staff their diagnostic, treatment and administrative installations, State and local health departments recruit and employ the diversified personnel required for VD control. As an aid to the numerous jurisdictions through which the national program operates, the Federal government likewise recruits and trains personnel and assigns them to State and local agencies as the latter request such assistance. When they are so assigned, Federal personnel function as members of the State or local staff and are responsible to its direction.

Venereal Disease Control in the Defense Program.—For several months, considerable thought and effort have been concentrated upon adapting and strengthening venereal disease control measures to meet the needs of the national defense program. Recognizing that periods of mobilization have traditionally brought increases in venereal disease rates, health officers have sought means to bolster control measures in defense areas where increases are likely to occur first. Closer coordination between civilian and military programs has been worked out for such areas. Thus, for the past year and a half, the Division of Venereal Disease of the Public Health Service has been working with the millitary in establishing machinery to prevent spread of venereal infections to servicemen from civilians in areas adjacent to military camps. One of the fruits of this joint effort is a uniform reporting system developed for civilian and military use. Military interviewers are being trained in Public Health Service centres. By arrangement with the Armed Services, State and local health departments are supplying interviewers and investigators to work in communities where military installations are located to alert civilian authorities to sources of infection among military personnel and vice versa. In addition, civilian interviewers are being made available to military installations on request of post commandants. By so strengthening and coordinating casefinding processes in areas of military and industrial concentration, civilian and military venereal disease control authorities hope to forestall a material increase in venereal disease rates which would jeopardize success of the national defense effort.

Results of Control

Since 1938 progress in venereal disease control has been consistent, both in terms of technical developments and declines in the number of reported cases on syphilis. In 1950, for example, reported cases (all stages) numbered 231,567, while in 1938 the number was 480,140. Reported cases of primary and secondary syphilis dropped from 68,000 in 1941 to 32,000 in 1950. For 1941, the minimum incidence of syphilis was estimated at 1,77.000 cases; in 1950, the figure was 98,000.

However, there are recognized areas of weakness in the program. For example, the record as to congenital syphilis has not matched the achievements of health agencies in controlling early syphilis in adults. It is believed, moreover, that reporting of venereal disease sometimes falls short of providing health officers with substantially complete pictures of incidence and prevalence. And in some areas of the nation, organized health services are lacking or poor in quality. In those areas, the number of cases which escape diagnosis and treatment is not known. Admittedly, these are difficult problems, but no one of them, it is believed, need remain unsolved. Not one of them should survive against persistent public health effort, well supported and aggressively administered.

"Alpha-Ray Therapy in Certain Skin Conditions"*

By

D. P. Jayaram, B. Sc., M. B. B. S,
Dermatologist, Sri Krishnarajendra Hospital, Mysore.

Alpha-Rays emitted by radio-active substances have been employed for the treatment of skin conditions since 1912. Nagelschmidt[1] is the pioneer in employing Thorium-X, a radio-active isotope of Radium, as the source of alpha-rays in the treatment of skin conditions. Alpha-ray therapy has been popular on the continent, particularly Germany. Jacobsen[2] was the first to use in England in 1936, obtaining supplies by air-mail from Berlin. Subsequently, in 1938, an English firm[3] took up the manufacture of Thorium-X for thrapeutic use. It has not been used to any extent in the United States, perhaps because of the difficulty of obtaining Thorium-X and also because of the fear of possible dangers from its use. Thorium-X can be obtained from a firm in England by air-mail. I learn that the firm has on previous occassions supplied Thorium-X to some Dermatologists in Calcutta, New Delhi and Karachi. Perhaps some of these physicians who have employed this therapeutic agent before, may be present in the Assembly and I hope to hear their experiences on this mode of therapy.

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* Paper read before the Second All India Conference of Dermatologists & Venereologists on April 14, 1951, held at Calcutta.

Thorium-X is a radio-active metal with an Atomic Weight of 224 and atomic number 88, with a half-life period of 3.64 days. It is isolated from thorium minerals by a chemical process. It may be of interest to mention here, that recent newspaper reports[4] indicate that thorium minerals have been found in the monazite sands of Cochin-Travancore shores and that the Indian National Physical Laboratories have taken up the work of isolating the radio-active elements from this source. Thorium-X undergoes constant transformation into Thoron (a gas) of atomic weight 220, with the emission of an alpharay. This in turn gives off an alpha-ray and its further decay products emit alpha, beta, and gamma radiation. However it has been determined that 99% of total energy emitted by Thorium-X is made of alpha radiation. The gamma ray fraction of the radiant energy given off by Thorium-X constitutes such a small part of the energy, that there is no danger from the effects of gamma radiation, when Thorium-X is employed externally on the skin. Lomholt[5] demonstrated the freedom from danger of these gamma rays by experiments carried out on himself.

Alpha-rays are actually helium nuclei, travelling at speeds of 9.000 to 20,000 miles per second. They carry double positive charges. While passing through matter, these particles are slowed down by collision with other atoms and in so doing get two electrons added on, thus getting converted to helium atoms. Alpha-rays have such feeble powers of penetration, that none can pass through a paper of postcard thickness. The action of alpha-rays on the skin is very superficial and they are entirely absorbed in the skin and cannot damage the underlying tissues. Their effects on the skin have been compared with the effects of Grenz Rays (Soft X-Rays: 9-20 K. V.).

Thorium-X is a solid substance. For therapeutic purposes its compounds (oxide, nitrate etc) can be obtained dissolved or suspended in propyl alcohol, a pyroxilin varnish or eucerin ointment base from the manufactures. The dosage is expressed in terms of electro-static units (e. s. u), an electro-static unit being defined as " that quantity of Thorium-X which will produce a saturation current of one e. s. u. in an electric field ". Since alpha-ray activity of Thorium-X is constantly changing, decreasing to half its original value in about 4 days time, it is essential while ordering, to mention the date and time of use at which it should have the desired potency. It is practicable to use it in India, obtaining supplies of Thorium-X weekly or as required by air-mail from England. Normally air-mail parcels from England reach Mysore in 5 days and are supplied so as to have the desired potency on the day of delivery, for use on the same day.

The Thorium-X solution is applied to the involved skin area carefully with a wooden stick tipped with a little cotton. Each application is allowed to dry before a second or third application is made where and when necessary. If alcoholic solution of Thorium-X is used, after it dries up, a thin coat of flexible

collodion is applied to cover over and prevent any radiation from escaping outwards. This protective coating should be left undisturbed for 48 hrs. If Thorium varnish is used no protective coat is needed. The usual dosage of Thorium-X employed is 1,000–2,000 e. s. u. per c. c. in alcohol, or 1,500–3,000 e. s. u. in varnish. Higher potency of varnish preparations are called for, because of the screening effect of the varnish itself. I c. c. of these preparations can cover over roughly 100 sq. cm. of skin surface.

Thirty selected cases of different dermatological conditions have so far been treated with external application of Thorium-X from January 1950 to date at the Skin Clinic of Sri Krishnarajendra Hospital, Mysore. The clinical results observed in this series of cases will be briefly discussed according to the different diagnostic groups.

1. Lichenification of the skin: 6 cases.

Lichenification of the skin as a result of chronic eczema and other chronic skin diseases is a fairly common skin condition, accounting for 6% of all patients treated at the skin clinic. 6 such cases were treated with Thorium-X and all of them responded favourably. Typical of this group is the case of a man 58, who had an oval lichenified plaque (5" by 3") on the dorsum of the foot for over 30 years. He had superficial X-Ray Therapy six years ago without much improvement. Six weekly applications of Thorium-X in varnish (2000 e. s. u./ c. c.) were made to the area, leaving a strip of skin ½" wide running across the oval plaque, as a control. Itching disappeared in the treated area after two weeks and the plaque flattened out to the level of the neighbouring skin eight weeks after the commencement, leaving a transverse ridge, corresponding to the un-treated zone. This zone was treated during the subsequent visits of the patient. There was no recurrence of the original lesion when examined at a follow up visit six months later, in this and other cases of this group.

2. Lichen Simplex Chronicus (Neurodermite): 4 cases.

These four cases of Neurodermite involving the nape of the neck, had all recurred a few weeks after the superficial X-Ray therapy and some of them had two or three courses of X-rays in the period of an year, to the same area of the skin. Repetition of X-ray therapy was considered inadvisable and were, therefore, treated with Thorium X. Three weekly applications of Thorium X in varnish (2000 e. s. u./c. c.) were made, leaving a small circular area in the center of the lesion untreated, as a control. All the four cases cleared up completely after 4 weeks. The control areas were standing out like buttons stuck to the surface of the skin. The treated areas acquired a hyperpigmented appearance which persisted from 2–3 months in the different cases, after which normal skin colour returned.

3. Alopecia areata: 8 cases.

Eight cases of alopecia areata involving the scalp, duration–3 weeks to one year, were treated with monthly application of Thorium–X in alcohol (1,000

e. s. u./c. c.). In four of these cases hairs began to appear within 4 weeks of the first application except in the small strip left untreated as a control in each one of these cases. All these cases were of shorter duration. The remaining 4 cases grew hair (except in control areas) 2 to 3 weeks after the second application. The absence of growth in the control areas in every one of these cases eliminates the possibility of a spontaneous re-growth of hair. No case of alopecia areata involving the bearded area in men was treated because the residual hyperpigmentation which inevitably follows persists for some months and is a worse cosmetic defect than the alopecia itself.

4. Psoriasis : 4 cases.

These four patients had psoriasis involving the face in particular and the patients were much worried about their cosmetic disability as all of them were adolescent girls. Application of a kerato-lytic ointment (containing 5% of of hydragyri ammoniata, 3% salycylic acid and 4% Liq. Carbonis detergens in Petrolatum) was advised for a week before Thorium-X was applied, with the idea of removing the scales which may screen off the alpha-rays. Thorium-X 1,500 e. s. u./c. c. of alcohol was applied to the psoriatic patches, taking care that normal skin did not get any of it. A thin protective coat of collodion was applied separately to each individual patch. The patches resolved completely, leaving a faint hyperpigmentation on an average after 4 to 5 weekly applications. The residual hyperpigmentation disappeared between 6 to 8 weeks. In two of these cases there was recurrence of the eruption commencing at the periphery of the treated lesions, perhaps because of inadequate dosage there, 4 months after treatment. Two other cases treated have not recurred 6 months after their treatment.

5. Seborrheic Dermatitis : 2 cases.

Two patients who had seborrheic dermatitis resistant to local therapy with sulphur and resorcinol preparations were treated with Thorium-X, 1,500 e.s.u./c.c. in alcohol, after removal of scales with a keratolytic ointment by weekly applications for 5 weeks at the end of which the eruptions disappeared completely, except for the control areas left untreated.

6. Verruca Plana Juvenalis : 2 cases.

Multiple plane warts on 2 children were treated with Thorium-X 1,500 e. s. u. per c.c. in alcohol applied weekly. On an average 6 to 8 applications were necessary for clearing up the warts. This is a useful modality of treatment in young children who do not subject themselves for electro-dessication of the warts.

7. Capillary Hemangioma : 1 case.

An irregularly oval lesion, 2" by 1" situated on the nape of the neck in a child aged 2 years which was showing signs of increase in size, was treated with Thorium-X (1,500 e. s. u./c. c. in varnish) applied at monthly intervals for 3 months. The hemangioma became pale in the centre first and gradually disappeared completely except for a small spot in the periphery which was left untreated, as a control.

8. Onycho-mycosis : 1 case.

Fungous infection of the nails–4 out of 5 affected nails in a patient aged 14 years were treated. Fungi were demonstrated from nail scrappings of all the nails. The nails were discoloured, had lost all lusture, and were easily crushed into a dirty white amorphous powder. Thorium–X 1,500 e. s. u./c.c. in alcohol was applied once weekly for 12 weeks and fortnightly for 6 applications. During this period the patient was advised not to use his hands for eating. All the treated nails markedly improved in texture and appearance, but none of them regained perfectly normal appearance.

9. Vitiligo : 2 cases

The residual hyperpigmentation that is so frequently observed after treatment with Thorium–X prompted me to try out its pigmentogenic effect on depigmented conditions of the skin.

In the 2 cases treated, after 4 weekly application of Thorium–X in varnish 1,500 e. s. u. per c.c., small punctate, perifollicular pigmented spots appeared and these enlarged and coalesced in the course of the following 3 weeks during which Thorium–X was continued.

Eight weeks after the cessation of treatment, the patches that had completely regained pigment began to show regression. The newly formed pigmentation increased and where neighbouring pigmented spots had coalesced, complete depigmentation occurred. The hyperpigmentation that followes Thorium–X treatment on normal skin is a uniform one, but in these two cases, the pigmentation started around the hair follicles in the leucodermic patches. As the patients were unwilling to have a biopsy done on the treated areas, the exact location of the newly formed pigment in the skin could not be studied by histological examination. This subject requires further study and what value, if any, this modality of treatment has in vitiligo cannot be stated at present.

Conclusions

A review of these 30 cases treated with alpha–ray therapy indicated that it is a useful addition to the therapeutic armamentarium of dermatologists.

The response in lichenification of the skin, neurodermite and alopecia areata is very good. In psoriasis involving the face, it helps in clearing up the eruptions rapidly, thus solving a cosmetic problem, without the necessity of daily applications of messy ointments. In seborrhoeic dermatitis, verruca plana jevunalis, onychomycosis, and capillary hemangioma good results have been obtained. In vitiligo, the pigmentation obtained was temporary and its pigmentogenic value is still to be evaluated.

All these conditions in which Thorium–X has been used are conditions in which superficial X–rays could also be used. The simplicity of application, its neatness and elegance, the facility of variation of dosage from spot to spot over

even a single patch, the ability to use it in hairy areas are all distinct advantages over superficial X-ray therapy. Administration of X-ray therapy to small scattered skin lesions is a very time-consuming and cumbersome procedure. Besides the repeated use of alpha-ray treatment in recurrent dermatoses is free from danger while with X-ray treatment it is not so. The only danger from overdosage of Thorium-X is oedema of the skin, itching and burning sensation, finally leaving behind hyperpigmentation. In this series, only one patient developed such a reaction, which cleared up with wet dressings of aluminium acetate in a week's time.

Summary

(1) The Development of alpha-ray therapy is briefly described.
(2) The nature of Thorium-X, characteristics of alpha-rays, dosage and methods of application are described.
(3) A brief review of 30 cases treated is presented.
(4) The advantages of alpha-ray therapy over X-ray therapy are discussed.

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Pemphigus and Newer antibiotics

(A general survey of the disease and four case reports)

By

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Pemphigus is an acute or chronic disease of the skin, occurring in several phases, generally accompanied by constitutional symptoms, characterised by bullae, developing in cycles or continuous succession.

Classification. P. Acutus, P. Vulgaris; P. Foliaceous, P. Vegetans, Benign Pemphigus (Kerato follicularis) and Familial Pemphigus.

The most common form being P. Vulgaris.

Aetiology. Not yet established.

Pathology. Unilocular pressure bullae are found in any layer of the epidermis filled with serum and a few leucocytes. Collagenous substance in cutis is replaced by liroproteins. These are not diagnostic.

Symptoms. Vary according to the type. But generally bullae of various types and sizes are found distributed on the body inclusive of the mucous membranes. They occur in successive crops with periods of intermission or remission. The bullae are tense early and contain serum, abacterial in nature. They ultimately become secondarily infected. They burst and crust and this may go on for weeks or years. Vitality of the patient is lowered, emaciation and toxaemia occur and intercurrent diseases may prove fatal. Outlook is very grave and the mortality rate is high.

Diagnosis. Characteristic bullae occurring in crops is diagnostic, but it has to be differentiated from :

(a) Bullous lesions in Lepra where anaesthesia is present and never may be thickened.

(b) Bullous syphilide, which occur only in infants and are limited to palms and soles. The other signs and symptoms of Syphilis will be present and T. P. can be easily demonstrated from the lesions.

(c) Bullous impetigo, which are not distributed generally as well as the presence of bacteria which could easily differentiate this condition.

(d) Dermatitis Herpetiformis–Rather difficult, but the lesions are pustular and vesicular and they are multiform.

Prognosis is always grave especially with P. Vulgaris and P. Vegetans. Mortality is high and may be due to emaciation, toxaemia or intercurrent diseases.

Treatment. Very unsatisfactory–Arsenic is considered to be a specific but in actual practice it is far fetched. Intramuscular injections of Coagulen Ciba in doses of 1.5 c c. three times a week, Moccassin Venom, Germanin have all been used with indifferent results. Few have tried Adrenalin Cortex.

We have tried, in addition to some of the above medicaments, Penicillin in high doses. Penicillin controls the secondary infection but has no effect on the progress of disease.

We have also tried repeated Blood transfusions of 200 c.c.s each time with dubious results. In short the treatment of this condition of unknown aetiology is baffling the Dermatologists all over.

Newer Antibiotics

Terramycin was being tried extensively in Denmark in 1950 and Dermatologists have demonstrated a few cases of success to me while I was there, but they were not happy as this benefit was only transitory. I used this drug in my second case here with apparently little benefit. Of course, this drug should be tried in more cases before an opinion can be given of this rare antibiotic.

Aureomycin (Lederle) has been tried in America for this disease with some good effect. (Natenshohn and Downing). Our experience has been limited to three cases on this drug. But in two of them, marvellous effect was noted but the other did not respond at all. An optimistic conclusion can be drawn that Aureomycin does show beneficial effect in the control of the secondary infection and definitely ameliorates the symptoms, reduces the size and gravity of the succeeding crops. One point of interest here is that the successive crops do not stop immediately with Aureomycin therapy, but become milder and the intermission longer till it subsides altogether. A word of caution may be added here that an early exhibition and sufficient dosage of the drug is necessary.

Case Report I

Diagnosis: P. Vulgaris (treated on conservative lines)
Admitted 6-6-50. Discharged 25-1-51

Admitted for bullous lesions all over body. The bullae were occurring in crops and were discharging clear fluid. No area of erythema. All other examinations were normal. Treatment given was (a) Autohaemotherapy 6 injections (b) Stovarsol four tablets a day for 12 days. (c) No improvement was noticed and on 12-7-50, 2-8-50, 17-8-50 and 4-9-50 she was given blood transfusion of 350 c.c. each. (d) Coagulen ciba was also given (10 injections).

Progress: This case never responded to any treatment. Crops were appearing regularly and the patient was going down hill. Aureomycin was not available at that time and she was discharged at request after more than six months' stay in the hospital in the same state.

Case Report II

P. S. Admitted 11-2-51. Discharged 6-5-51.
Diagnosis: P. Vulgaris

Generalised bullae, polymorphous, a few pendulant and rather large. A few bullae were found in the buccal mucosa also. Patient was slightly toxic on admission.

Urine and blood were normal. Blood culture was negative. Fluid aspirated from the bullae was sterile. B. W. R.-Negative.

Treatment: P. A. M. (Procaine Penicillin with 2% Al. monostearate) 1 c.c. per day was given with no effect. Waves of successive crops appeared and patient was getting worse. Terramycin 250 mg. every 6 hours was given for 10 days. Total 15 grammes. The effect was negligible and this was stopped and the patient was switched on to Aureomycin (Lederle) 250 mg. every 6 hours. By the third day of treatment the bullae started retrogressing. The next crop of bullae was much smaller in size and eventhough fresh crops appeared, the size became smaller and smaller and ultimately stopped. Total dosage of Aureomycin given was 16 grammes. The aureomycin was continued three days

after the last crop which itself was insignificant in size. The patient had an uneventful recovery. No relapse has occurred in the last three months after discharge from hospital.

Case III

P. V. Admitted 19-3-51. Died 15-4-51.

Diagnosis: P. Vegetans (fulminant) reported with extensive vegetative erosive lesions over trunk and limbs, some crusted and a few in the axilla were hypertrophic and rather moist, resembling syphilides. A few bullae without any

Case III

P. Vegetans (Fulminant)

Case IV

P. Vulgaris

treatment was carried on the bitter end of 10 grammes.

Recovery onwards was uneventful and the patient was discharged with no further relapse.

The early withdrawal of the drug precipitated a relapse and the opinion is that this is to be avoided.

Conclusions

This grave disease of unknown aetiology still baffles the Dermatologist. A ray of hope is seen in the new drug Aureomycin which, if exhibited early, in sufficient dosage and continued for some time after the cessation of symptoms

Aureomycin (Lederle) has been tried in America for this disease with some good effect. (Natenshohn and Downing). Our experience has been limited to three cases on this drug. But in two of them, marvellous effect was noted but the other did not respond at all. An optimistic conclusion can be drawn that Aureomycin does show beneficial effect in the control of the secondary infection and definitely ameliorates the symptoms, reduces the size and gravity of the succeeding crops. One point of interest here is that the successive crops do not stop immediately with Aureomycin therapy, but become milder and the inter-

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Case III

P. V. Admitted 19-3-51. Died 15-4-51.

Diagnosis: P. Vegetans (fulminant) reported with extensive vegetative erosive lesions over trunk and limbs, some crusted and a few in the axilla were hypertrophic and rather moist, resembling syphilids. A few bullae without any erythema were present. No adenopathy.

D. Field neg for T. P. B. W. R. Negative. Culture of fluid from bullae grew Staph albus (contaminant). Blood culture Stap albus grown (obviously contaminant). All other findings were negative. Patient was put on PAM for 10 days. No improvement was seen and patient was getting worse. Waves of crops of bullae of typical nature started coming on and the diagnosis was beyond doubt.

The patient was put on Aureomycin 500 mg. three times a day. The patient never responded and after using more than 15 grammes, the treatment was given up. Extensive loss of fluid and dehydration set on, in spite of I. V. infusions and the patient expired.

Case IV

Aged 60. Admitted 20-7-51. Discharged 1-9-51.

Reported with bullous lesions all over body, some large and others small, a few pendulous, with a history of successive crops occurring more or less daily. The diagnosis of P. Vulgaris was made and as all investigations proved negative, he was started on Aureomycin 500 mgs. four times a day (a rather intensive course). By the fourth day the onset of fresh crops stopped and regression and healing took place. After five days, Aureomycin was stopped, the total dosage given was 10 grammes.

A week later the patient suddenly relapsed with the appearance of rather small bullae daily. Aureomycin was started, 1 gramme a day for a further 10 days. By the third day of this course, the appearance of bullae stopped but the treatment was carried on the bitter end of 10 grammes.

Recovery onwards was uneventful and the patient was discharged with no further relapse.

The early withdrawal of the drug precipitated a relapse and the opinion is that this is to be avoided.

Conclusions

This grave disease of unknown aetiology still baffles the Dermatologist. A ray of hope is seen in the new drug Aureomycin which, if exhibited early, in sufficient dosage and continued for some time after the cessation of symptoms

does seem to have a curative effect on this dread malady. Of the four cases cited, three of them treated on this new drug are too small to draw any further conclusions.

My thanks are due to the Superintendent, King George Hospital, Visakhapatnam for permission to use hospital records as well as the supply of this costly drug for this series.

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The Value of Penicillin Alone in the Prevention and Treatment of Congenital Syphilis*

By

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The complete suppression of congenital syphilis by prenatal treatment of the syphilitic woman is now rendered distinctly probable through the discovery and use of penicillin. The value of penicillin in preventing the passage of syphilis from mother to child approaches perfection. Its ability to readily permeate the placenta makes it possible to adequately treat and cure the fetus already infected *in utero*.

Since the prevention of congenital syphilis is from every standpoint the most important aspect of this programme, the material dealing with the syphilitic pregnant woman will be presented first.

Syphilis and Pregnancy

Material:

This is the study of the outcome of pregnancy in 1,959 women with syphilis. Of these women 1,963 received penicillin either before or during their pregnancy. The only basis for selection of cases other than presence of syphilis and stage of disease, was the duration of medical follow-up of the infant after birth. It was the desire in this study to keep under observation all surviving infants with at least monthly physical examinations, blood serologic tests and where indicated, roentgenograms of the long bones, for a period of at least six months.

For adequate clinical statistical analysis of the value of penicillin in the prevention of congenital syphilis, it was felt that three types of control group

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were necessary. In the first place, since normal, or non-syphilitic pregnancy does not invariably result in the birth of a full-term living infant, it was felt that data on the results from *a comparable group of pregnancies from which syphilis had been excluded*, insofar as possible, were a requisite. This information was obtained through inclusion in the study of such a control group, giving outcome of pregnancy of 10,323 mothers at the Philadelphia General Hospital for the years 1945 to 1949 inclusive, in whom syphilis was ruled out by negative medical history, physical examination and blood serologic tests.

Secondly, it seemed necessary to obtain information concerning the *effect of untreated syphilis on the outcome of pregnancy* in comparable material over a period concurrent with the study. Such information, though contained in earlier publications is rather meagre in the medical literature and, from other sources, would not necessarily be comparable with the results of this study.

In controlling the results of penicillin therapy in this field it also seemed highly desirable to have information in a comparable series of cases concerning the outcome of pregnancy when arsenic and bismuth, which it is proposed be replaced by penicillin, is employed. Such a group of adequately studied pregnant women with early syphilis was found at the Philadelphia General Hospital for the interval, January 1940 to August 1946 inclusive.

Anticipated Results of Pregnancy as shown by Control Groups:

The probability of having a normal full-term living infant among patients from a control group comparable to the syphilis material at the Philadelphia General Hospital is about 86 in 100 when the possibility of syphilis has been excluded. Full-term stillborn infants or neonatal deaths are very infrequent (about one-half of one per cent each). Premature infants, more than two-thirds of whom are born alive and survive the neonatal period, occur in slightly less than 13 per cent of total deliveries.

In comparison the toll of *untreated active early syphilis* is enormous. A few normal full-term living infants will result in the untreated syphilitic group, but the probability of a dead or diseased child exceeds four in five pregnancies.

Duration of syphilis at the time of pregnancy has an important effect on the outcome. Untreated women with syphilis of more than four years duration have a probability of 3 in 4 pregnancies of having a normal full-term living infant. The likelihood of obtaining a living syphilitic infant, between two and three per cent among the untreated women with late syphilis is not significantly greater than the occurrence of this accident in the treated syphilis material. For this reason, conclusions based upon the effect of treatment in preventing congenital syphilis in any series which includes a substantial number of patients with late syphilis is hardly valid without correction for duration of disease. All of our subsequent analyses on the usefulness of treatment during pregnancy are, accordingly, based only upon the study of women with early syphilis.

Arsenic and Bismuth in the Prevention of Congenital Syphilis:

Less than 20 weekly injections of a trivalent arsenical preparation such as neoarsphenamine or a phenarsine derivative given before pregnancy with or without bismuth or less than 10 injections of an arsenical given during pregnancy, are capable of giving normal full-term living infants almost two times in three. When more than 10 weeks of arsenical therapy is given during pregnancy, with or without bismuth, the results of pregnancy in all categories analyzed are better than those obtained in the control group with the exception of some slight tendency to an increase in the number of infants stillborn at term, but here, the difference will not bear the test for statistical significance. Better than 91 per cent normal full-term living infants resulted and only 2.2 per cent living syphilitic infants.

Aqueous Penicillin by Frequent Injection of Hospitalized Patients:

With the syphilitic pregnant women as with other types of syphilis, initial trials and still by far the greatest experience has been with aqueous penicillin by injection at 2, 3 or 4 hours intervals. Optimum effect, better than 90 per cent normal living full-term infants and about one per cent living syphilitic infants, seems to be reached by total dosage of 2.4 million Oxford units when aqueous penicillin is used. Total dosages of 4.0 to 6.0 million Oxford units have been employed in periods from 7 to 12 days but significantly improved outcome of pregnancy has not been obtained over those resulting from the use of 40,000 units crystalline G sodium (or potassium) penicillin in aqueous solution evey three hours for a total of 60 injections.

Slowly Absorbed Penicillin Given During Pregnancy.

The plan has been to maintain a satisfactory concentration of penicillin in the maternal and fetal tissues for a period of eight to ten days. The initial requirement of once daily injection has more recently been modified to give less frequent injection though with total dosage of from 4.8 to 6.0 million Oxford units. The choice of exact type of drug and frequency of administration will be determined from question of convenience or suitability to the particular situation prevailing rather than from concern for any difference in therapeutic efficiency.

Treatment Given Prior to Conception in the Prevention of Congenital Syphilis:

Among 115 mothers at the Philadelphia General Hospital who received more than 20 weeks of arsenical treatment with or without bismuth prior to conception, but no specific treatment for syphilis during pregnancy, more than 92 per cent normal living full-term infants resulted and no living syphilitic infants. With 379 mothers who received 2.4 million units or more total dose of penicillin prior to conception but no specific treatment for syphilis during pregnancy, 91 per cent normal full-term living infants resulted and only 2 (0.5%) living

syphilitic infants. Adequate treatment of the mother prior to conception is accordingly just as effective as specific therapy given during pregnancy in the prevention of congenital syphilis provided observation throughout the period of gestation is adequate and reinfection dose not occur.

Discussion of Penicillin Treatment of the Syphilitic Pregnant Woman

(a) Blood Serologic Test During Pregnancy and at Time of Delivery:

Since only a short time will intervene between the date of treatment and the date of termination of the pregnancy, in this group on an average three to four months, the majority of the syphilitic women will still be seropositive at delivery. In evaluating the effect of treatment repetition of the blood serologic test of the mother during pregnancy is of little value unless a titer is performed to determine quantitative response. Then minor variations which may be indicative of activity of disease and at times predict infectious relapse may be determined. A monthly examination for syphilis including laboratory examination and an inspection for presence of lesions from the time of treatment until termination of the pregnancy is essential to the ideal handling of such patients and formed a part of the routine management in the study.

(b) Reasons for Failure of Treatment During Pregnancy:

Failure of treatment during pregnancy results from two principal causes. In the first place, the fetus may be diseased beyond all hope of survival at the time treatment is instituted. This occurs in some cases when the mother with active syphilis does not receive attention for her disease until the latter part of pregnancy, usually after the thirty-second week. The fetus may occasionally die during the course of treatment in such instances or be stillborn shortly after its completion.

The second cause of failure, which usually results in the birth of a living syphilitic child, comes from recrudescence of activity of infection in the last weeks of the pregnancy in spite of treatment or occasionally from fresh infection. When arsenic and bismuth were used to prevent congenital syphilis, about ten weeks of therapy were essential prenatally to be reasonably certain that the fetus was protected. With penicillin, total treatment may be given in a week or two which is a great advantage. But, in the occasional case in which treatment is ineffectual in controlling the maternal infection and relapse occurs with or without the development of recognizable surface lesions, or when the woman is reinfected through some failure in epidemiologic procedure, then a diseased infant may result.

(c) Relation of Week of Pregnancy in which Treatment is given to Unfavourable Outcome:

The reason for failure among those mothers treated after the thirty-second week is easy to understand. These are instances in which in all probability the

fetus was already infected *in utero* and the amount of treatment given to the mother was insufficient to complete the cure of the fetal syphilis prior to birth. In such instances it would be anticipated that women with active early syphilis would have already transmitted the disease to the unborn child in a large percentage of cases.

The instances in which the mother was treated in early pregnancy (or even before pregnancy) and yet the infant was infected, can be explained usually only on the premise that the active maternal infection was not controlled.

It is interesting to note that Cole, Plotke, Thomas and Jenkins (1949) found the greatest number of confirmed syphilitic outcomes in mothers treated in the *first* trimester of pregnancy and the least when treatment was given during the middle trimester. Some clinical research workers have advocated retreating late in pregnancy all women with early syphilis who received their initial therapy before the sixteenth week.

(*d*) *Response of Pregnant Women to Treatment and Question of Retreatment in Subsequent Pregnancies*:

The value of arsenic and bismuth therapy given prior to pregnancy in preventing congenital syphilis has been answered even more conclusively than in the present study with a larger series of cases (570 pregnancies in 363 women) by Goodwin and Faber (1948). Their results are similar to those described by us in that, none of the living infants were shown to have syphilis. Because of the prolonged period necessary to administer arsenic and bismuth as compared to penicillin, in relatively few of the women who were treated prior to conception only was the syphilis of short duration when pregnancy resulted. To such a group the element of time has been added to that of treatment. This would be expected to greatly improve the outcome of pregnancy.

(*e*) *Recommended Treatment Schedule for the Pregnant Syphilitic Woman*:

The basic essential in treating the pregnant syphilitic woman to protect or cure the fetus is to maintain satisfactory penicillin concentration over a period of seven to ten days. This can best be accomplished by a total dosage of 6.0 million Oxford units of procaine penicillin in absorption delaying vehicle, such as vegetable oil with 2% aluminum monostearate. Individual injections of 600,000 Oxford units once daily may be used, or perhaps a larger amount of antibiotic at longer intervals, provided adequate penicillin concentrations are maintained.

Congenital Syphilis

Response of Blood Serologic Test following Penicillin:

In infants whose treatment was commenced prior to the age of four months (median age 1.9 months) not a single infant, followed beyond the age of 18 months failed to become seronegative and clinically normal. One fifth of the

treated infants observed during the first six month post treatment interval were seronegative, four-fifths at 12 months were seronegative, 98 per cent at 18 months and 100 per cent thereafter. This evidence of virtually complete response to penicillin treatment with almost total absence of clinical relapse or progression up to more than five years of observation is apparently peculiar to infantile congenital syphilis.

Treatment of Infantile Congenital Syphilis:

Therapeutic shock (Jarisch-Herxheimer reaction) occurs in infantile syphilis following penicillin and may be severe. The best chance of controlling the aftermath of such a reaction is through hospitalizing the infant and giving expert pediatric care directed towards restoring normal fluid, salt and protein balance and correcting anemia. Parenteral feedings, increased fluid intake and blood transfusions are sometimes essential. Almost all small infants with congenital syphilis are the victims of intercurrent infection and death results in the majority of cases, in our experience, from involvement of the respiratory tract, culminating in bronchopneumonia, otitis media, septicemia or similar serious complication. The presence of other infectious diseases which may also be helped by penicillin is a potent argument against reducing initial penicillin dosage.

Duration of Therapy: 12 to 15 days.

Total dose: Not less than 100,000 Oxford units penicillin per kg of body weight.

Individual dose:

(a) 1/120 of total dose calculated in round numbers of crystalline sodium (or potassium) every three hours, or

(b) 150,000 to 300,000 Oxford Units procaine G penicillin in absorption delaying vehicle once daily (less frequent administration of slowly absorbed penicillin has also been recommended but experience is very limited).

Method of Administration: By injection. There should be no reduction in dosage of initial treatment (s).

The excellent results obtained with penicillin alone in infantile syphilis make use of adjunct metal chemotherapy (arsenical and bismuth) seem unnecessary. One matter for comment has been the infrequency of progression or relapse in infantile congenital syphilis, following penicillin therapy. This has occurred in only about one per cent of cases. Satisfactory response has been induced uniformly in these infants by repetition of the penicillin course, usually with somewhat larger total dose of the antibiotic.

Late Congenital Syphilis:

Few patients received a total of less than 6.0 million Oxford units and many of the patients particularly those with interstitial keratitis or involvement of the central nervous system received 9.0 million Oxford units total dose or more.

Patients with latent syphilis or benign symptomatic late syphilis (osseous and cutaneous) were treated on an ambulatory basis with 600,000 Oxford units penicillin in absorption delaying vehicle over a period of 10 days. The more serious manifestations of the disease were usually hospitalized and many received aqueous crystalline G sodium penicillin in dosage of 80,000 Oxford units every three hours for 15 days.

Gummatous *skin* and *bone involvement* as an accompaniment of late congenital syphilis heals promptly following penicillin therapy with scarring but with little tendency to relapse at least within the periods of observation.

The response of *late congenital neurosyphilis* to penicillin is of interest though the number of collected cases is small.

The outcome, insofar as it can be evaluated with small number of cases is as good but no better following penicillin than after metal chemotherapy. As with other forms of treatment, penicillin does not always prevent initial attacks of interstitial keratitis, it does not stop involvement of the second eye when only one is involved and does not prevent recurrence of the disease in the previously affected eye. It is customary to use fever therapy in addition to maximal penicillin dose in this condition.

Congenital syphilis is rapidly ceasing to be a serious medical and public health problem where good control measures are possible. Still, it will continue to be a threat as long as syphilis is prevalent in any degree in the adult population. With modern public health practice and the effectiveness of penicillin during pregnancy, the crippling death dealing impact of infantile and late congenital infection results almost completely from neglect in application of our knowledge. The fact that an appreciable number of infants or children with prenatally acquired infection exists shows that even the areas where general public health practice is considered to be good, too many cases of syphilis are escaping detection in marriage and pregnancy. While this is not always the fault of the physician who handles the individual case and may often be attributed directly to the shortcomings of the patient, yet, it does represent a defect in social organization which *can* be remedied to the benefit of civilization and mankind.

Prevention and Treatment of Pre-Natal Syphilis

By

Dr. M. Monacelli

Syphilis in pregnant women may, when there is no question of active syphilis, be considered as a particular type of latent syphilis; even where the maternal organism does not present any clinical or serological signs of syphilitic infection, most syphilographers advise treatment, bearing in mind the reactivation which the pregnancy represents in its relation to the product of conception.

It is particularly interesting to note that penicillin is the syphilis therapy, which, as Thomas rightly points out, has best fulfilled the requirements laid down by Speiser.

According to this author the requisites of the ideal syphilis therapy for pregnant women are as follows :

(1) absence of toxic effects (2) treatment of maternal syphilis (3) prevention of transmission of the infection from mother to child (4) treatment of the syphilitic fetus in cases where it is possible that the infection has been transmitted to it (5) rapidity of action.

The work proceeded from 1 october 1949 as follows :

Either on their own initiative or sent by the municipal obstetrical dispensaries and the obstetricians expectant mothers present themselves to a pre-natal and infant treatment centre set up and operated in collaboration with the dermatological, obstetric and paediatric hospitals. Here the women are clinically examined and subjected to a complete serological test.

All those who show signs of either clinical or serological syphilitic infection are given penicillin therapy by a series of injections of P. A. M. penicillin in a single dose of 4 c.c., (1,200,000 units) repeated twice weekly. Up to April of this year the series consisted of four injections; since then we have increased it to five (6,000,000 units). In principle at the beginning we administered a second series in the same way when the first was completed before the seventh month of pregnancy and when the serological reactions were still positive after the seventh month; latter we have endeavoured as far as possible to repeat the series, convinced that it is beneficial.

The women are kept under the most careful clinical and serological observation, repeated each month, during the whole period of pregnancy, at the birth and for the longest possible period after the birth.

Pregnant women so far treated number 1,241 (up to 15 september 1950); in nearly all cases syphilis was latent or undiscovered or insufficiently treated previously, not more than 1.1% of cases showed clinical manifestations of active and recent syphilis.

With regard to the effect of treatment on the mothers, it is not necessary to emphasize the tolerance to penicillin, the almost total absence of toxic effects of any kind and the negligible ecbolic effects (contrary to certain affirmations). Clinical variations are practically non-existent, these being, as has been said, nearly always asymptomatic or clinically very slight; in the few cases of active syphilis, the effect on the manifestations is rapid and favourable.

Penicillin, in the dosage adopted, quite definitely brought about the disappearance of weakly positive reactions in 25% of cases and a partial reduction in strongly positive reactions in all cases.

KNOWLEDGE FROM WORLD CONTEMPORARIES

The Ideal Treatment for Gonorrhoea

What properties should be possessed by the ideal drug for the treatment of gonorrhoea ? It should be a non-toxic substance which, when given orally in a single dose, will immediately and surely cure, without risk of complication, 95 per cent. of cases; and the occasional failure should respond to re-treatment. Furthermore, the drug should have no effect upon syphilis so that there would be no danger of masking this latter condition should it be simultaneously acquired.

Gocke *et al* (1950) presenting the so called " antibiotic spectrum " of the gonococcus, found that the drugs tested *in vitro* had the following order of effectiveness :—penicillin, aureomycin, chloramphenicol, streptomycin, bacitracin, neomycin, polymyxin, aerosporon and last of all, sulphadiazin.

Table :—The Ideal Drug for the Treatment of Gonorrhoea

	Given orally	Toxicity	95% cures in single dose	Absence of resistance	Masks Syphilis
IDEAL	+	—	+	+	—
Penicillin—parenteral ...	—	—	+	+	+
Penicillin—oral ...	+	—	—	+	+
Streptomycin	—	±	+	—	±
Aureomycin	+	±	±	?	+
Chloramphenicol ...	+	—	±	?	+
Terramycin	+	±	—	?	+

There are five potent drugs available for the treatment of gonorrhoea : penicillin, streptomycin, aureomycin, chloramphenicol and terramycin.

None of the drugs under consideration will not mask syphilis but streptomycin in small doses of 0.3–0.5 gm. is the least likely to do. On this account it should be employed as an alternative to the sulphonamides for cases of gonorrhoea in which the index of suspicion of syphilis is above average.

In this country penicillin, being the cheapest and the most readily available, is still the drug of choice. In view of the uncertainties of absorption by oral administration a single intramuscular injection not exceeding 300,000 units of a procaine penicillin perparation is recommended.

The oral antibiotics, aureomycin, chloramphenicol and terramycin—if they are used—are best given in two doses each of 1 gm. six hours apart.

In view of the fact that so many drugs are capable of dealing effectively with the gonococcus it seems unlikely that there can be any widespread diffusion of resistant strains as happened after some years with the sulphonamides.

The ideal drug for the treatment of gonorrhoea has not yet been discovered.

Willcox, R. R., Med. World. Vol. LXXIV, No. 11, Page, 318, May 18, 1951.

Venereophobia in the male

During recent months the incidences of venereophobia at the clinics has increased. This increase has been confined almost entirely to male patients, some of whom have attended for the first time, while the others have been old patients of the clinics. This may be, because the signs of venereal disease or supposed venereal disease are more obvious in the male, and not necessarily because the male worries more over the result of illicit sexual intercourse.

To the sufferer, it is often more distressing than a real attack of gonorrhoea or syphilis.

The typical case is one in which a patient, having been discharged cured from a clinic some weeks or months before, returns thinking he has a relapse. Tests are taken and he is found to be free from infection. After the appropriate interval of surveillance he is reassured and again discharged, but after a further interval, probably shorter than the last, he is back again. He may, or may not, have run a further risk of infection, and those not re-exposed are the most difficult patients. Negative tests followed by reassurance do not result in cure; the patient does not appear convinced, and one almost wishes that he might have a profuse gonococcal discharge, which by its very disappearance after treatment, would convince him.

Diagnosis

The contrast as regards clinical and laboratory findings between the normal patient and the sceptical patient who keeps on returning to the clinic makes diagnosis easy. It is frequently so easy that the actual mode of entry of the patient into the consulting room suggests the diagnosis at once. While the diagnosis may be easy, the treatment is often difficult.

The patient has probably been reading all the popular literature on the subject of venereal disease which he can obtain. In any case he has been looking out for symptoms and signs, and he has found one or more signs which he believes to be evidence of venereal disease. What he has found may only be some normal phenomenon of which he himself was not previously aware, and no surface lesion can be too small for keen eyes of the phobic patient.

Now, usually and unfortunately, he dose not volunteer the information exactly as he himself has found it. Perhaps he thinks that if he were to disclose his own findings, they would be waved aside too easily as irrelevant. Or perhaps he is intent on satisfying himself that the venereologist knows his job and can find the sign. He states his fear of a relapse, or that he sometimes has a discharge from his penis, or he may complain of vague aching in the genital region. Usually he complains of a symptom or sign which he knows to be the recognized accompaniment of a venereal infection. He may think his own discovery of insufficient magnitude, but whatever the train of thought one thing is quite

certain, that the venereologist must discover this sign, point it out, and explain its harmlessness to the patient. Herein lies the success of the treatment.

Treatment

Successful treatment depends on the recognition and demonstration to the patient of the sign he has found, and the explanation in terms which he can understand that this sign is not that of an active venereal infection. If the patient realizes that his suspicious sign has been considered he is more likely to be satisfied than by confident reassurance of a general nature that he is not suffering from disease.

If the signs which worry phobic patients are known, and leading questions with reference to them are put to the patient under consideration, he will readily admit the presence of the one which has been troubling him and from that moment his attitude will become less sceptical.

Nine signs were found ; those numbered 1 to 4 were commonly encountered but the remaining five were not common.

(1) Spermatorrhoea.—This was reported as a discharge and had invariably followed defaecation. Although this probably indicated recent sextual activity, and the presence of constipation, this side of the question was not explained to the patient. The explanation given was to the effect that its production resembled that which occured when prostatic massage was resorted to during test of cure for gonarrhoea ; that is, that the passage of faeces in close proximity to the gland did the work of the examining finger in the case of the test of cure. The discharge thus obtained was merely normal secretion.

(2) Sticky Meatus.—This sign was found in every case to be the result of vigorous "milking" of the penis. When asked to show his penis, the patient almost invariably carried out this operation, and in one case the amount of force used was quite astonishing. Although during treatment of an original attack of gonorrhoea the patient had been warned against "milking" the penis, some of the phobic cases had forgotten or disregarded this advice. A smear of the material was taken, and if pus cells were absent, the patient was reassured by the explanation that the discharge he had seen was the normal product from glands within the penis, increased in amount and expressed at the tip by his own squeezing.

(3) Threads in the Urine.—The phobic patient examines his urine carefully and discovers threads if he has had previous urethritis, gonococcal or non-gonococcal. It was explained that these were due to a change in the character of the lining of the penis brought about by the previous infection, and the patient usually then appeared satisfied that their presence did not indicate present infection.

(4) Phosphaturia.—This was usually reported by the patient as a discharge after micturition as opposed to a discharge of spermatorrhoea after defae-

cation. A sudden milkiness appearing in the stream towards the end of the act of micturition was interpreted by the patient as a discharge. If I am fortunate enough to obtain a specimen passed on the spot by the patient which contains phosphates, the explanation, followed by his watching their disappearance on the addition of acetic acid, works like a charm.

(5) Septic Spots and Warts.

(6) Ducts of Smegma Glands.

(7) Presence of Smegma.

(8) Superficial Burns caused by strong disinfectants used by the patient.

(9) Normal Sebaceous Glands and Hair Follicles of the ventral surface of the root of the penis, and sometimes of the scrotum.

Having questioned the patient with regard to these signs and explained any which might have been troubling him, the physician's next step is to consider how frequently and for how long the patient should attend. Of course all the tests for the exclusion of venereal disease should be carried out, even in the case of the patient who states that he has never had sextual intercourse. As stated above, the patient is often aggressive and in no mood for reassurance at his first attendance, but after a few attendances he will probably become transformed into a friendly and receptive person. It is important that blood be taken at each attendance, for the patient sets great store by the blood test. The length of time of attendance varies with the progress, but can be gauged by the state of patient's outlook. Any attempt to get rid of him prematurely will result in failure of the treatment, which is, after all, a catalogue of "placebos", consisting in words and tests with blood tests always to the fore.

Rogerson, H. L., British Journal of Venereal Diseases. Vol. XXVII, No. 3, Page 158, Sept. 1951.

Syphillis, heart Infections Joining list of Terramycin Victims

After extensive experiments with mice and rabbits, two French scientists have just concluded that "terramycin appears to be an antisyphilitic of the first order". The results of their studies are published in the current issue ot Antibiotics and Chemotherapie.

At a symposium on advances in the study of venereal diseases in Washington, D. C., it was reported that four out of five patients under treatment for mucocutaneous syphilis, which affects the skin and mucous membranes, experienced very good recovery under terramycin therapy. Recnt medical literature includes several other reports of good response to terramycin in cases of primary and secondary syphilis.

Bacterial endocarditis, is another dangerous condition which is difficult to treat but responds to this new antibiotic. A recent example among current reports is provided by the experience of a Latin American Clinician who treated a case of bacterial endocardities complicated by general blood-poisoning. On admission to the hospital, the patient was near death and in delirious condition. After other therapy had failed, terramycin treatment was instituted, and two a half months later the patient returned to work, clinically cured. A similar instance was described by Dr. L. A. Rantz in the Journal of the American Medical Association.

As announced by three French doctors, two cases of severe bacterial endocarditis were also successfully treated with the drug. "Terramycin now seems to assure these patients of rapid recovery", they reported to the Medical Society of Paris Hospitals. They state that in contrast to penicillin, the only other agents previously found effective, terramycin treatment is fast and easy, and no unpleasant side-effects were encountered.

The frequent occurrence of endocarditis as a complicating factor in other diseases is underscored by a recent report in Antibiotics and Chemotherapy. Three doctors of St. Luke's Hospital treated endocarditis in a 13-year old girl who had rheumatic heart disease. Penicillin treatment was followed by a relapse. The doctors then turned to terramycin and two months after the first administration of this broad-range antibiotic the little girl was cured.

Vaz Dias Agency, Nov., 1951

NOTES & NEWS

International Symposium on Yaws Control

An International Symposium on Yaws Control will be held in Bangkok, Thailand on March 14-22, 1952, under the anspices of the World Health Organization in collaboration with the Government of Thailand. During the week following the Symposium, a Field Demonstration and Training Seminar will be conducted, utilizing the facilities of the WHO Yaws Control Team in that country.

The programme will include papers and panel discussions on all phases of modern yaws control, including recent advances in the biology of the disease, antibiotic therapy, the extent and nature of the problem and the development and operation of yaws control programmes. Copies of the programme for the Symposium will be available about February 1, 1952. Requests for copies should be sent to Dr. Frank W. Reynolds, World Health Organization, Palais des Nations, Geneva Switzerland. Enquires may be addressed to any Regional Office of the World Health Organization or to WHO Headquarters in Geneva.

Inadequate facilities for fighting Venereal Disgases

Serologists and venereal disease specialists from five S. E. Asian countries* meeting under WHO auspices in New Delhi from Nov. 21st to 23rd agreed that the laboratories in the region at present equipped to carry out blood-tests for syphilis were in urgent need of improvement both as regards quality of work and numbers. The specialists were able to recommend important steps towards the reorganisation of methods and the adoption of newer simplified tests which, it was hoped might ultimately be accepted as standard in all the countries represented. [Dr. K. V. Venkataraman (Calcutta) was elected Chairman.]

The scientists witnessed a practical demonstration of simplified blood-test techniques. Blood samples from 156 persons were taken and tested and the results obtained all within two hours and using a minimum of personnel and apparatus. This method, it was learnt, had already been adopted in several laboratories and had been successfully used in mass-testing work in the field in remote locations.

The experts were unanimous on the need in each country for a system of laboratories ranging from local laboratories serving hospitals, clinics and general practioners, through central laboratories giving support and advice and acting as training centres, and finally a national reference laboratory to produce and standardise reagents. Uniformity of serological work throughout the country and the region should, the experts considered, be a major consideration.

The Conference also deplored the present crucial shortage of competent serologists and trained laboratory personnel. They laid great stress on the need for much greater training facilities and also for offering reasonable remuneration both to doctors and laboratory technicians so that the right type of young men might be attracted to laboratory work in sufficient numbers.

WHO Press Release. 23-11-51.

Family Planning Expert Submits Report

Pilot Studies to be initiated in India

A number of pilot studies in the rhythm (safe-period) method of family planning are to be initiated in different parts of India in order to determine its suitability for general introduction here. This represents the first fruits of the recommendations of Dr. Abraham Stone, WHO Family Planning Consultant, who has just spent six weeks visiting much of the country under government auspices.

Submitting his final report to WHO's Regional Office in New Delhi before leaving for Ceylon last weekend, Dr. Stone made it clear that it was a mistake to

* Burma, Ceylon, India, Indonesia & Thailand.

consider him an "apostle" of the rhythm method, although it had been specifically mentioned in his terms of reference when he was invited to India. Before recommending it as the best or the only method for use in this country, he would await the results of the pilot studies which were to be undertaken.

It is expected that pilot studies, to be sponsored jointly by the government and WHO, would be undertaken in several Delhi clinics, in Mysore villages where population and fertility studies were already being undertaken under United Nations auspices, at Poonamallee near Madras, and at the Singur Rural Health Centre attached to the Calcutta All-India Institute of Hygiene and Public Health. Each study would include 100 or more volunteer couples. After a preliminary 6-month period for individual instruction and observation, the method would be put into practice, and the results followed up in each individual case for a further one to two years. The necessary instruction would be given by local medical men and women, and it was expected that WHO would provide the Government with two experts for general guidance of these studies and evaluation of the results.

In this report, Dr. Stone has emphasised the importance of undertaking research into indigenous methods as well as the newer techniques for the prevention of conception. At his suggestion, the Indian Council of Medical Research had agreed to establish a broad-based Committee to promote research into the medical and technical aspects of human reproduction. Dr. Stone's recommendations will also cover the fields of education, both of the public and of the medical profession; steps for the establishment of government-sponsored family planning centres, and related studies.

He had found everywhere a keen inferest, previously health and social workers had been hesitant to express their ideas freely. In the future he felt that the fear of official disapproval would no longer be an obstacle to a nation-wide development of local family planning projects.

WHO Press Release

FROM OUR BOOK SHELF

ATLAS OF FRAMBOESIA - A nomenclature and clinical study of the skin lesions by Kenneth R. Hill, M. D., Dr. R. Kodijat; & Dr. M. Sardadi, Research Team Leaders World Health Organization : Monogragh Series No. 5 52 pages, price 5/-, $1.00, Sw. fr. 4.00.

A large-scale campaign against framboesia (yaws) is at present being conducted by the United Nations International Children's Emergency Fund and WHO in co-operation with the Indonesian Health Administration in several areas on

Java, Borneo, and other islands. Professor Kenneth Hill, the first to use penicillin in the treatment of framboesia, has acted as consultant and Dr. Kodijat as the Director of the Treponematoses Control Project in Indonesia since its inception in 1950.

The interest of the work lies in its series of 42 photographs illustrating the various skin manifestations of framboesia. It was the feelings of the authors that the present diverse and confusing descriptions of framboesia should be simplified, and, as far as possible, accurate descriptions given and this they have attempted to do. The conditions are divided into sixteen main groups, for each of which a concise clinical description is given, the nomenclature being compared with the terminology used by previous authors.

The atlas should prove of the greatest help to those auxiliary medical personnel with diagnostic responsibilities.

THE DIAGNOSIS OF SYPHILIS BY THE GENERAL PRACTITIONER—is Dr. Joseph Earle Moore's revision of his useful booklet originally published in 1938 as supplement 5 and now produced as supplement 23 to The Jl. of Ven. Dis. Information and published by Federal Security Agency: Public Health Service, Washington 25, D. C. Price: 25 cent each. This edition has been almost doubled in content by the addition of a completely new section on the new interpretation of laboratory tests for syphilis. The helpful charts of "suspicion arousers" are again a feature of the section on clinical diagnosis. This brochure may be useful to the general practitioner and the specialists alike.

SERODIAGNOSIS OF VENEREAL INFECTIONS — by WHO Experts Committee on Venereal Infections and Treponematoses, World Health Organization: Technical Report Series No. 33, 28 pages, price 1s 6d, $ 0.20, Sw. fr. 0.80. The Expert Committee on Venereal Infections and Treponematoses agreed that its chief function was to advise WHO on those activities which might contribute to the more efficient and uniform conduct of serological tests for syphilis, both nationally and internationally.

The subcommittee reviewed the steps already taken by WHO for the holding of an International Serodiagnostic Laboratory Conference. The development during the past year of freeze-drying techniques for the preparation of sera used in the standardization of various products and methods has given rise to the hope that freeze-dried syphilitic sera may be prepared without loss of their serological properties. To determine whether freeze-dried sera are suitable for complement-fixation and flocculation tests, a pilot study is to be carried out in seven laboratories in different parts of the world. Should this study prove successful, attempts to achieve the international standardization of serological laboratory procedures may be viewed in a new light.

The production and control of cardiolipin and lecithin used as antigen components is a vital problem today. Suggestions were made by the subcommittee for establishing a strict control of the purity of the products : monographs on cardiolipin and purified lecithin should be included in the *Pharmacopoea Internationalis;* international standards of cardiolipin and lecithin should be established; and laboratories should be selected to help the New York State Department of Health – the original patent holder for cardiolipin production – control the purity of these products throughout the world. The laboratories chosen should include at least one in a tropical or subtropical region, and should continue research on recently discovered substances, such as sitolipin, which may also prove suitable for use in the serodiagnosis of syphilis.

Technical advances relating to treponematoses other than syphilis were also examined. Data made available by WHO teams to the International Treponematosis Laboratory Centre in Baltimore, Md., USA, are proving valuable in the comparative study of the biologicial and immunological characteristics and relationship of the treponemal diseases and their causative agents. Further research on the applicability of the Nelson test to the diagnosis of syphilis should be carried out.

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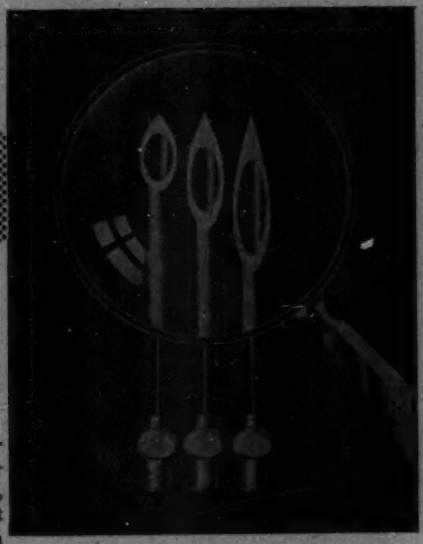

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